

Track Preference: Business/Cost Estimating

Presentation Title: Managing Fault Management Development

Synopsis:

This presentation will explore the results of a recent NASA Fault Management Workshop and how the findings and recommendations can be used by project managers to limit or avoid the FM development cost overruns that often occur on today's complex space missions.

Abstract:

As the complexity of space missions grows, development of Fault Management (FM) capabilities is an increasingly common driver for significant cost overruns late in the development cycle. FM issues and the resulting cost overruns are rarely caused by a lack of technology, but rather by a lack of planning and emphasis by project management. A recent NASA FM Workshop brought together FM practitioners from a broad spectrum of institutions, mission types, and functional roles to identify the drivers underlying FM overruns and recommend solutions. They identified a number of areas in which increased program and project management focus can be used to control FM development cost growth. These include up-front planning for FM as a distinct engineering discipline; managing different, conflicting, and changing institutional goals and risk postures; ensuring the necessary resources for a disciplined, coordinated approach to end-to-end fault management engineering; and monitoring FM coordination across all mission systems .

Biography:

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Mr. McDougal is the Deputy Program Manager for the Lunar Quest Program at NASA's Marshall Space Flight Center. In this capacity, he is leading the Program Formulation activity as well as overseeing the formulation of the assigned Lunar Science mission within the program.

Prior to this position, Mr. McDougal served NASA in various capacities including, most recently, as the Chief Engineer for the Discovery and New Frontiers Programs (D&NF), and the Science Programs and Projects Office. In these roles He served on and chaired various independent review activities and technical boards, and led various cross agency technical teams in addressing and solving technical issues including; spacecraft processing issues, launch processing issues and mission operations issues. Mr. McDougal also served a detail at NASA Headquarters in the Office of the Space Architect where he supported the development of the President's Vision for Exploration and the NASA Integrated Space Plan. He also worked with the X-prize Foundation supporting the formulation of the NASA Millennium Challenge. Mr. McDougal additionally has served in various organizational management, project management, and system engineering roles.

Mr. McDougal is a veteran of the U.S. Air Force and has been awarded the NASA Outstanding Leadership Medal and the NASA Exceptional Service Medal.